CHAPTER I

INTRODUCTION

1.1 Background of The Study

The car engines work for the intake stroke of the piston, the piston descends from the top of the cylinder to the bottom of the cylinder, reducing the pressure inside the cylinder. A mixture of fuel and air, or just air in a diesel engine, is forced by atmospheric (or greater) pressure into the cylinder through the intake port. The intake valves then closed. The volume of air/fuel mixture that is drawn into the cylinder, relative to the volume of the cylinder is called, the volumetric efficiency of the engine. Compression stroke with both intake and exhaust valves closed, the piston returns to the top of the cylinder compressing the air, or fuel-air mixture into the combustion chamber of the cylinder head. Power stroke: this is the start of the second revolution of the engine. While the piston is close to TDC, the compressed air–fuel mixture in a gasoline engine is ignited, usually by a spark plug, or fuel is injected into the diesel engine, which ignites due to the heat generated in the air during the compression stroke. The resulting massive pressure from the combustion of the compressed fuel-air mixture forces the piston back down toward bottom dead centre. Exhaust stroke during the *exhaust* stroke, the piston once again returns to top dead center while the exhaust valve is open. This action evacuates the

burnt products of combustion from the cylinder by expelling the spent fuel-air mixture out through the exhaust valves.

The engine test will analyze the effect of VTEC technology on Honda Jazz to the engine performance and fuel consumption. The result of this engine test will give us extra lessons whether this device is efficient or not.

1.2 Objectives of the Study

According to the problems statement above, the research has some objectives of the study. The objective is to analysis engine performance:

a. To know the power, on active VTEC and non-active VTEC system.
b. To know the torque, on active VTEC and non-active VTEC system.

1.3 Benefit of The study

Two benefits of this project study are as follows:

a. Theoretical Benefit

   The study is expected to give extra lessons to know about engine Performance VTEC Technology.

b. Practical Benefit

The study is expected to learn more the knowledge of researcher and reader about principles mechanisms of VTEC Technology.

1.4 Problem Limitations

Problem limitation on the engine test is used In-Line 4-Cylinder 16-Valve SOHC VTEC. The fuel which is used in the experiment is gasoline with the number octane of 98. The discussion is about the torque and power on engine use VTEC. The tools which available and also for issues to be discussed or analyzed is not too widespread. The dynamometer used to know the power and torque from the engine.